

## NOTE ON AN IMITATION OF THE DEPORTATION HABIT IN *POLYERGUS LUCIDUS* MAYR

BY CARYL PARKER HASKINS

It has chanced that in the course of two years' observation of colonies of the Shining Amazon Ant, *Polyergus lucidus* Mayr, principally in the artificial nest, a curious case of imitation has come to light which, as it happened, had never been previously encountered by the author. Undoubtedly the case is a common one, and has perhaps been frequently recorded, but, never having personally encountered such record in the literature I have entered it here in the hope that it may be of some possible interest to those concerned with the ant.

The colonies concerned were taken near New Haven, Conn., in small sunny park-like valley-areas in deep sand loam. In these localities *Formica schaufussi* Mayr forms prosperous and relatively populous colonies, composed of exceptionally large individuals, but not empty of pseudogynes. The nests of the Amazons are therefore abundantly supplied with large and aggressive slaves, and are easily transferrable to modified Lubbock, earth-filled nests. There the ants concerned became satisfactorily established in a very short time.

Long after the excavation of galleries, and other disturbances incident to establishment in a new situation, had subsided, the slaves continued to carry the *lucidus* about the nest from time to time. The mistresses, evidently considering the operation quite a usual one, submitted to the treatment without protest and, remaining inert, were handled after the usual fashion of *schaufussi* in deporting its own species. The *lucidus*, in characteristic fashion, idled about the nest showing no interest in its construction or in the care of the brood and confining themselves to laying numerous eggs, and occasionally to devouring them.

Within three weeks however the mistresses, no longer occupied by any prospect of a foray, began to pass the leisure hours in a crude imitation of the deporting habits of the slaves. Frequently *lucidus* workers seized one another and attempted to

carry or to drag the burden with occasional success. This deportation was of a markedly different character from the clean-cut operation of the slaves. The deported individual was seized at random by any portion of the body and aimlessly dragged about, though with no evidence of hostility, meanwhile vigorously resisting the will of its captor. The action closely resembled the deportation habits of such primitive Ponerinae as *Stigmatomma pallipes*.

The *lucidus* shortly transferred their attentions to the slaves, seizing them by a leg or an antenna and dragging them about. The latter were thoroughly surprised and alarmed at this conduct and occasionally actively resented the action of the parasites.

Within a month however I was extremely surprised to observe the slaves practicing the identical method of deportation upon the *Polyergus*, and among themselves. The practice was an exact copy of the actions of the *lucidus* and was kept entirely distinct from the usual method, which continued to be employed for some time.

The necessarily abnormal conditions of the artificial nest, coupled with the complete stultification of the slave-foray, accounts perhaps for these activities. Under normal conditions the *lucidus* workers doubtless never attempt to deport one another, or their slaves. But the acquisition by the slaves of an imperfect and, to all appearances, primitive habit, taken up in faithful imitation of a trick apparently either surviving feebly from the time of the hypothetical independence of the obligatory slavemakers, or more probably reacquired in turn by imitation of the much more highly specialized normal habits of deportation of *schaufussi* has struck the author. He has wondered whether it may be of any slight significance, in view of Kutter's remarkable discovery that the slaves of *Strongylognathus alpinus* have completely imitated the mistresses in a much larger matter, the action of the slave foray, that they have become adept in the art, compose a goodly percentage of the foray column, and render indispensable assistance to the *alpinus* in their nocturnal raids on *Tetramorium caespitum*.